

Arg	Thr	Asp	Trp	Ile	Thr	Arg	Glu	Gly	Ala	Gln	Arg	Val	Tyr	Ile	Glu	
85					90					95					100	
att	aaa	ttc	acc	ttg	agg	gac	tgc	aat	agt	ctt	ccg	ggc	gtc	atg	ggg	390
Ile	Lys	Phe	Thr	Leu	Arg	Asp	Cys	Asn	Ser	Leu	Pro	Gly	Val	Met	Gly	
				105				110						115		
act	tgc	aag	gag	acg	ttt	aac	ctg	tac	tac	tat	gaa	tca	gac	aac	gac	438
Thr	Cys	Lys	Glu	Thr	Phe	Asn	Leu	Tyr	Tyr	Tyr	Glu	Ser	Asp	Asn	Asp	
			120					125					130			
aaa	gag	cgt	ttc	atc	aga	gag	aac	cag	ttt	gtc	aaa	att	gac	acc	att	486
Lys	Glu	Arg	Phe	Ile	Arg	Glu	Asn	Gln	Phe	Val	Lys	Ile	Asp	Thr	Ile	
		135					140					145				
gct	gct	gat	gag	agc	ttc	acc	caa	gtg	gac	att	ggg	gac	aga	atc	atg	534
Ala	Ala	Asp	Glu	Ser	Phe	Thr	Gln	Val	Asp	Ile	Gly	Asp	Arg	Ile	Met	
	150					155					160					
aag	ctg	aac	acc	gag	atc	cgg	gat	gta	ggg	cca	tta	agc	aaa	aag	ggg	582
Lys	Leu	Asn	Thr	Glu	Ile	Arg	Asp	Val	Gly	Pro	Leu	Ser	Lys	Lys	Gly	
165					170					175					180	
ttt	tac	ctg	gct	ttt	cag	gat	gtg	ggg	gcc	tgc	atc	gcc	ctg	gta	tca	630
Phe	Tyr	Leu	Ala	Phe	Gln	Asp	Val	Gly	Ala	Cys	Ile	Ala	Leu	Val	Ser	
				185					190					195		
gtc	cgt	gtg	ttc	tat	aaa	aag	tgt	cca	ctc	aca	gtc	cgc	aat	ctg	gcc	678
Val	Arg	Val	Phe	Tyr	Lys	Lys	Cys	Pro	Leu	Thr	Val	Arg	Asn	Leu	Ala	
			200					205					210			
cag	ttt	cct	gac	acc	atc	aca	ggg	gct	gat	acg	tct	tcc	ctg	gtg	gaa	726
Gln	Phe	Pro	Asp	Thr	Ile	Thr	Gly	Ala	Asp	Thr	Ser	Ser	Leu	Val	Glu	
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gtt	cga	ggc	tcc	tgt	gtc	aac	aac	tca	gaa	gag	aaa	gat	gtg	cca	aaa	774
Val	Arg	Gly	Ser	Cys	Val	Asn	Asn	Ser	Glu	Glu	Lys	Asp	Val	Pro	Lys	
	230					235					240					
atg	tac	tgt	ggg	gca	gat	ggg	gaa	tgg	ctg	gta	ccc	att	ggc	aac	tgc	822
Met	Tyr	Cys	Gly	Ala	Asp	Gly	Glu	Trp	Leu	Val	Pro	Ile	Gly	Asn	Cys	
245					250					255					260	
cta	tgc	aac	gct	ggg	cat	gag	gag	cgg	agc	gga	gaa	tgc	caa	gct	tgc	870
Leu	Cys	Asn	Ala	Gly	His	Glu	Glu	Arg	Ser	Gly	Glu	Cys	Gln	Ala	Cys	
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aaa	att	gga	tat	tac	aag	gct	ctc	tcc	acg	gat	gcc	acc	tgt	gcc	aag	918
Lys	Ile	Gly	Tyr	Tyr	Lys	Ala	Leu	Ser	Thr	Asp	Ala	Thr	Cys	Ala	Lys	
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tgc	cca	ccc	cac	agc	tac	tct	gtc	tgg	gaa	gga	gcc	acc	tcg	tgc	acc	966
Cys	Pro	Pro	His	Ser	Tyr	Ser	Val	Trp	Glu	Gly	Ala	Thr	Ser	Cys	Thr	
		295					300					305				
tgt	gac	cga	ggc	ttt	ttc	aga	gct	gac	aac	gat	gct	gcc	tct	atg	ccc	1014
Cys	Asp	Arg	Gly	Phe	Phe	Arg	Ala	Asp	Asn	Asp	Ala	Ala	Ser	Met	Pro	
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tgc	acc	cgt	cca	cca	tct	gct	ccc	ctg	aac	ttg	att	tca	aat	gtc	aac	1062
Cys	Thr	Arg	Pro	Pro	Ser	Ala	Pro	Leu	Asn	Leu	Ile	Ser	Asn	Val	Asn	

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cgc cag gac att tcc tat aat gtg gta tgc aag aaa tgt gga gct ggt Arg Gln Asp Ile Ser Tyr Asn Val Val Cys Lys Lys Cys Gly Ala Gly 360 365 370				1158
gac ccc agc aag tgc cga ccc tgt gga agt ggg gtc cac tac acc cca Asp Pro Ser Lys Cys Arg Pro Cys Gly Ser Gly Val His Tyr Thr Pro 375 380 385				1206
cag cag aat ggc ttg aag acc acc aaa gtc tcc atc act gac ctc cta Gln Gln Asn Gly Leu Lys Thr Thr Lys Val Ser Ile Thr Asp Leu Leu 390 395 400				1254
gct cat acc aat tac acc ttt gaa atc tgg gct gtg aat gga gtg tcc Ala His Thr Asn Tyr Thr Phe Glu Ile Trp Ala Val Asn Gly Val Ser 405 410 415 420				1302
aaa tat aac cct aac cca gac caa tca gtt tct gtc act gtg acc acc Lys Tyr Asn Pro Asn Pro Asp Gln Ser Val Ser Val Thr Val Thr Thr 425 430 435				1350
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gag cga agc tat cgt ata gtt cgg aca gct gcc agg aac aca gat atc Glu Arg Ser Tyr Arg Ile Val Arg Thr Ala Ala Arg Asn Thr Asp Ile 485 490 495 500				1542
aaa ggc ctg aac cct ctc act tcc tat gtt ttc cac gtg cga gcc agg Lys Gly Leu Asn Pro Leu Thr Ser Tyr Val Phe His Val Arg Ala Arg 505 510 515				1590
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ctt ctg gtc tct gtc tcg ggc agt gtg gtg ctg gtg gta att ctc att Leu Leu Val Ser Val Ser Gly Ser Val Val Leu Val Val Ile Leu Ile 550 555 560				1734
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caa gaa gcg gat gaa gag aaa cat ttg aat caa ggt gta aga aca tat	1830
Gln Glu Ala Asp Glu Glu Lys His Leu Asn Gln Gly Val Arg Thr Tyr	
585 590 595	
gtg gac ccc ttt acg tac gaa gat ccc aac caa gca gtg cga gag ttt	1878
Val Asp Pro Phe Thr Tyr Glu Asp Pro Asn Gln Ala Val Arg Glu Phe	
600 605 610	
gcc aaa gaa att gac gca tcc tgc att aag att gaa aaa gtt ata gga	1926
Ala Lys Glu Ile Asp Ala Ser Cys Ile Lys Ile Glu Lys Val Ile Gly	
615 620 625	
gtt ggt gaa ttt ggt gag gta tgc agt ggg cgt ctc aaa gtg cct ggc	1974
Val Gly Glu Phe Gly Glu Val Cys Ser Gly Arg Leu Lys Val Pro Gly	
630 635 640	
aag aga gag atc tgt gtg gct atc aag act ctg aaa gct ggt tat aca	2022
Lys Arg Glu Ile Cys Val Ala Ile Lys Thr Leu Lys Ala Gly Tyr Thr	
645 650 655 660	
gac aaa cag agg aga gac ttc ctg agt gag gcc agc atc atg gga cag	2070
Asp Lys Gln Arg Arg Asp Phe Leu Ser Glu Ala Ser Ile Met Gly Gln	
665 670 675	
ttt gac cat ccg aac atc att cac ttg gaa ggc gtg gtc act aaa tgt	2118
Phe Asp His Pro Asn Ile Ile His Leu Glu Gly Val Val Thr Lys Cys	
680 685 690	
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Lys Pro Val Met Ile Ile Thr Glu Tyr Met Glu Asn Gly Ser Leu Asp	
695 700 705	
gca ttc ctc agg aaa aat gat ggc aga ttt aca gtc att cag ctg gtg	2214
Ala Phe Leu Arg Lys Asn Asp Gly Arg Phe Thr Val Ile Gln Leu Val	
710 715 720	
ggc atg ctt cgt ggc att ggg tct ggg atg aag tat tta tct gat atg	2262
Gly Met Leu Arg Gly Ile Gly Ser Gly Met Lys Tyr Leu Ser Asp Met	
725 730 735 740	
agc tat gtg cat cgt gat ctg gcc gca cgg aac atc ctg gtg aac agc	2310
Ser Tyr Val His Arg Asp Leu Ala Ala Arg Asn Ile Leu Val Asn Ser	
745 750 755	
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Asn Leu Val Cys Lys Val Ser Asp Phe Gly Met Ser Arg Val Leu Glu	
760 765 770	
gat gat ccg gaa gca gct tac acc acc agg ggt ggc aag att cct atc	2406
Asp Asp Pro Glu Ala Ala Tyr Thr Thr Arg Gly Gly Lys Ile Pro Ile	
775 780 785	
cgg tgg act gcg cca gaa gca att gcc tat cgt aaa ttc aca tca gca	2454
Arg Trp Thr Ala Pro Glu Ala Ile Ala Tyr Arg Lys Phe Thr Ser Ala	
790 795 800	
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Ser Asp Val Trp Ser Tyr Gly Ile Val Met Trp Glu Val Met Ser Tyr	
805 810 815 820	

ggg gag agg ccc tat tgg gat atg tcc aat caa gat gtg att aaa gcc	2550
Gly Glu Arg Pro Tyr Trp Asp Met Ser Asn Gln Asp Val Ile Lys Ala	
825 830 835	
att gag gaa ggc tat cgg tta ccc cct cca atg gac tgc ccc att gcg	2598
Ile Glu Glu Gly Tyr Arg Leu Pro Pro Pro Met Asp Cys Pro Ile Ala	
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Leu His Gln Leu Met Leu Asp Cys Trp Gln Lys Glu Arg Ser Asp Arg	
855 860 865	
cct aaa ttt ggg cag att gtc aac atg ttg gac aaa ctc atc cgc aac	2694
Pro Lys Phe Gly Gln Ile Val Asn Met Leu Asp Lys Leu Ile Arg Asn	
870 875 880	
ccc aac agc ttg aag agg aca ggg acg gag agc tcc aga cct aac act	2742
Pro Asn Ser Leu Lys Arg Thr Gly Thr Glu Ser Ser Arg Pro Asn Thr	
885 890 895 900	
gcc ttg ttg gat cca agc tcc cct gaa ttc tct gct gtg gta tca gtg	2790
Ala Leu Leu Asp Pro Ser Ser Pro Glu Phe Ser Ala Val Val Ser Val	
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ggc gat tgg ctc cag gcc att aaa atg gac cgg tat aag gat aac ttc	2838
Gly Asp Trp Leu Gln Ala Ile Lys Met Asp Arg Tyr Lys Asp Asn Phe	
920 925 930	
aca gct gct ggt tat acc aca cta gag gct gtg gtg cac gtg aac cag	2886
Thr Ala Ala Gly Tyr Thr Thr Leu Glu Ala Val Val His Val Asn Gln	
935 940 945	
gag gac ctg gca aga att ggt atc aca gcc atc acg cac cag aat aag	2934
Glu Asp Leu Ala Arg Ile Gly Ile Thr Ala Ile Thr His Gln Asn Lys	
950 955 960	
att ttg agc agt gtc cag gca atg cga acc caa atg cag cag atg cac	2982
Ile Leu Ser Ser Val Gln Ala Met Arg Thr Gln Met Gln Gln Met His	
965 970 975 980	
ggc aga atg gtt ccc gtc tga gccagtactg aataaactca aaactcttga	3033
Gly Arg Met Val Pro Val	
985	
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cagattgctg aaactgtggg gcttacagaa atgactgccg gtcatttgaa tgagacctgg	3213
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Cys Asp Ala Val Thr Gly Ser Arg Val Tyr Pro Ala Asn Glu Val Thr	20	25	30
Leu Leu Asp Ser Arg Ser Val Gln Gly Glu Leu Gly Trp Ile Ala Ser	35	40	45
Pro Leu Glu Gly Gly Trp Glu Glu Val Ser Ile Met Asp Glu Lys Asn	50	55	60
Thr Pro Ile Arg Thr Tyr Gln Val Cys Asn Val Met Glu Pro Ser Gln	65	70	75
Asn Asn Trp Leu Arg Thr Asp Trp Ile Thr Arg Glu Gly Ala Gln Arg	85	90	95
Val Tyr Ile Glu Ile Lys Phe Thr Leu Arg Asp Cys Asn Ser Leu Pro	100	105	110
Gly Val Met Gly Thr Cys Lys Glu Thr Phe Asn Leu Tyr Tyr Tyr Glu	115	120	125
Ser Asp Asn Asp Lys Glu Arg Phe Ile Arg Glu Asn Gln Phe Val Lys	130	135	140
Ile Asp Thr Ile Ala Ala Asp Glu Ser Phe Thr Gln Val Asp Ile Gly	145	150	155
Asp Arg Ile Met Lys Leu Asn Thr Glu Ile Arg Asp Val Gly Pro Leu	165	170	175
Ser Lys Lys Gly Phe Tyr Leu Ala Phe Gln Asp Val Gly Ala Cys Ile	180	185	190
Ala Leu Val Ser Val Arg Val Phe Tyr Lys Lys Cys Pro Leu Thr Val	195	200	205
Arg Asn Leu Ala Gln Phe Pro Asp Thr Ile Thr Gly Ala Asp Thr Ser	210	215	220
Ser Leu Val Glu Val Arg Gly Ser Cys Val Asn Asn Ser Glu Glu Lys	225	230	235
Asp Val Pro Lys Met Tyr Cys Gly Ala Asp Gly Glu Trp Leu Val Pro	245	250	255
Ile Gly Asn Cys Leu Cys Asn Ala Gly His Glu Glu Arg Ser Gly Glu	260	265	270
Cys Gln Ala Cys Lys Ile Gly Tyr Tyr Lys Ala Leu Ser Thr Asp Ala	275	280	285
Thr Cys Ala Lys Cys Pro Pro His Ser Tyr Ser Val Trp Glu Gly Ala	290	295	300
Thr Ser Cys Thr Cys Asp Arg Gly Phe Phe Arg Ala Asp Asn Asp Ala	305	310	315
Ala Ser Met Pro Cys Thr Arg Pro Pro Ser Ala Pro Leu Asn Leu Ile			

325										330					335				
Ser	Asn	Val	Asn	Glu	Thr	Ser	Val	Asn	Leu	Glu	Trp	Ser	Ser	Pro	Gln				
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	370					375					380								
His	Tyr	Thr	Pro	Gln	Gln	Asn	Gly	Leu	Lys	Thr	Thr	Lys	Val	Ser	Ile				
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Thr	Asp	Leu	Leu	Ala	His	Thr	Asn	Tyr	Thr	Phe	Glu	Ile	Trp	Ala	Val				
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Thr	Val	Thr	Thr	Asn	Gln	Ala	Ala	Pro	Ser	Ser	Ile	Ala	Leu	Val	Gln				
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Ala	Lys	Glu	Val	Thr	Arg	Tyr	Ser	Val	Ala	Leu	Ala	Trp	Leu	Glu	Pro				
	450					455					460								
Asp	Arg	Pro	Asn	Gly	Val	Ile	Leu	Glu	Tyr	Glu	Val	Lys	Tyr	Tyr	Glu				
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Lys	Asp	Gln	Asn	Glu	Arg	Ser	Tyr	Arg	Ile	Val	Arg	Thr	Ala	Ala	Arg				
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Asn	Thr	Asp	Ile	Lys	Gly	Leu	Asn	Pro	Leu	Thr	Ser	Tyr	Val	Phe	His				
			500					505					510						
Val	Arg	Ala	Arg	Thr	Ala	Ala	Gly	Tyr	Gly	Asp	Phe	Ser	Glu	Pro	Leu				
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Glu	Val	Thr	Thr	Asn	Thr	Val	Pro	Ser	Arg	Ile	Ile	Gly	Asp	Gly	Ala				
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Asn	Ser	Thr	Val	Leu	Leu	Val	Ser	Val	Ser	Gly	Ser	Val	Val	Leu	Val				
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Val	Ile	Leu	Ile	Ala	Ala	Phe	Val	Ile	Ser	Arg	Arg	Arg	Ser	Lys	Tyr				
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Ser	Lys	Ala	Lys	Gln	Glu	Ala	Asp	Glu	Glu	Lys	His	Leu	Asn	Gln	Gly				
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Val	Arg	Thr	Tyr	Val	Asp	Pro	Phe	Thr	Tyr	Glu	Asp	Pro	Asn	Gln	Ala				
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645										650					655				
Ala	Gly	Tyr	Thr	Asp	Lys	Gln	Arg	Arg	Asp	Phe	Leu	Ser	Glu	Ala	Ser				
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		675					680					685							
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Gly	Ser	Leu	Asp	Ala	Phe	Leu	Arg	Lys	Asn	Asp	Gly	Arg	Phe	Thr	Val				
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Leu	Ser	Asp	Met	Ser	Tyr	Val	His	Arg	Asp	Leu	Ala	Ala	Arg	Asn	Ile				
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Leu	Val	Asn	Ser	Asn	Leu	Val	Cys	Lys	Val	Ser	Asp	Phe	Gly	Met	Ser				
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Arg	Val	Leu	Glu	Asp	Asp	Pro	Glu	Ala	Ala	Tyr	Thr	Thr	Arg	Gly	Gly				
		770				775						780							
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Val	Ile	Lys	Ala	Ile	Glu	Glu	Gly	Tyr	Arg	Leu	Pro	Pro	Pro	Met	Asp				
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His	Gln	Asn	Lys	Ile	Leu	Ser	Ser	Val	Gln	Ala	Met	Arg	Thr	Gln	Met				
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<220>
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